

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph spanning from page 13, line 17 to page 14, line 11 with the following:

In a more preferred embodiment, the hydrated cations are exchanged with organic cations. These organic cations act as surface modifiers of the silicate platelet layers throughout the resin complex, thereby providing a mechanism for achieving optimum dispersion. Preferably, the organic cations used as surface modifiers include, but are not limited to, Bis(2-Hydroxyethyl) methyl tallow quaternary ammonium ion, dimethyl-2-ethyl hexyl hydrogenated tallow quaternary ammonium ion, methyl dihydroxyethyl hydrogenated tallow ammonium ion, protonated aminododecanoic acid, protonated polyoxyethylene decyloxypropylamine, and octadecyl trimethyl ~~amine~~ammonium ion. The most preferred compounds are quaternary ammonium ions, which can be exchanged. The molecule must contain a minimum length of 8-20 carbons, to separate the layers effectively. Preferably, the molecule contains a length of 12-18 carbons. Each onium ion, which is ion exchanged to a layer, may contain a functional group that (1) matches the polarity of the resin to increase the absorbency of the resin into the gallery, and/or (2) contains a polymerizable group, which becomes bonded to the resin during polymerization. The first option allows the monomer to be fully intercalated. The second option in addition to full intercalation allows the resin to be chemically bonded to the surface modifier. Surface modifiers which contain unsaturated tallow are able to be polymerized by free radical polymerization to the methacrylate based resin matrix.